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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/683,899	10/10/2003	Anthony K. Cheetham	1279-410/10310792	3082

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FULBRIGHT AND JAWORSKI L L P
PATENT DOCKETING 29TH FLOOR
865 SOUTH FIGUEROA STREET
LOS ANGELES, CA 900172576

EXAMINER

KOSLOW, CAROL M

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/683,899

Applicant(s)

CHEETHAM ET AL.

Examiner

C. Melissa Koslow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 11, 12, 14-18, 23-26 and 28-32 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 10 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 4, 8, 13, 22 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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This action is in response to applicants' amendment of 25 April 2005. The amendment to the specification has overcome the 35 USC 112, first paragraph rejection. The amendments to the claims have overcome the objection to the claims. The amendments to the claims have overcome the rejection based on U.S. patents 6,084,250, 6,278,135 and 3,360,674. Applicant's arguments, with respect to the remaining rejections have been fully considered but they are not persuasive.

Claims 8 and 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form.

These claims teach the phosphors of claims 30 and 31 include Tb as a co-dopant, but this limitation is already found in claims 30 and 31. Thus, they do not further limit claims 30 and 31.

Claims 5-7 and 19-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 30 from which claims 5-7 depend require the presence of Tb, but the formula in claims 5-7 do not require the presence of Tb. Claim 5 teaches the dopant A is at least one of Eu, Sm and Pr, not Tb and at least one of Eu, Sm and Pr, as required in claim 30. Claim 31 from which claims 19-21 depends require the presence of Tb, but the formula in claims 19-21 teach the presence of Tb is optional. Thus, claims 5-7 and 19-21 are improperly dependent of claims 30 and 31 respectively.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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Claims 1-3 and 10 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 6,252,254.

This reference teaches a light emitting device comprising a blue light emitting LED or laser diode, a green phosphor and a red phosphor having the formula $YVO_4:Eu,Bi$, which can be rewritten as $Y_{1-x}Bi_xVO_4:Eu$, where $0 < x < 1$. This formula falls within that of claims 5, 6 and 30. The blue emitting LEDs emit light having a wavelength in the range of 420-470 nm, which falls within the claimed range, and can be any conventional blue emitting LEDs, such as the GaN based ones taught in the patents discussed in column 7, line 1. This phosphor is excited or absorbs light emitted by the LED, or 420-470 nm, and a peak emission of about 620 nm. These wavelength ranges fall within the claimed ranges. The reference teaches the claimed phosphor and device.

The amendment to claims 1 did not overcome the rejection over claims 1-3 and 10 since GaN based blue light emitting semiconductors are taught by the reference.

Claims 9, 11, 12, 14-18, 23-26 and 28-32 are allowed.

Claims 4, 13 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 14-16 and 24-32 allowable for the reasons given in the previous action. Claims 4, 13, 17, 18 and 32 are allowable since there is no suggestion or teaching in the cited art of record to combine the claimed bismuth doped rare earth vanadate phosphor with a blue and green phosphor to get a white light emitting phosphor combination or to use the combination with a GaN based UV light emitting device. U.S. patent 6,252,254 teaches that the claimed bismuth

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doped rare earth vanadate phosphor need only be combined with a green phosphor to get a white light emitting device when combined with a blue light emitting LED. There is no suggestion to use this taught phosphor combination with a UV emitting semiconductor device, a green phosphor and a blue phosphor since the claimed phosphors is not functionally equivalent with the red phosphors of U.S. patent 6,084,250 with respect to the wavelengths it absorbs and it emitted red light.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (703) 872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cnk
June 1, 2005



C. Melissa Koslow
Primary Examiner
Tech. Center 1700